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FIG. 1

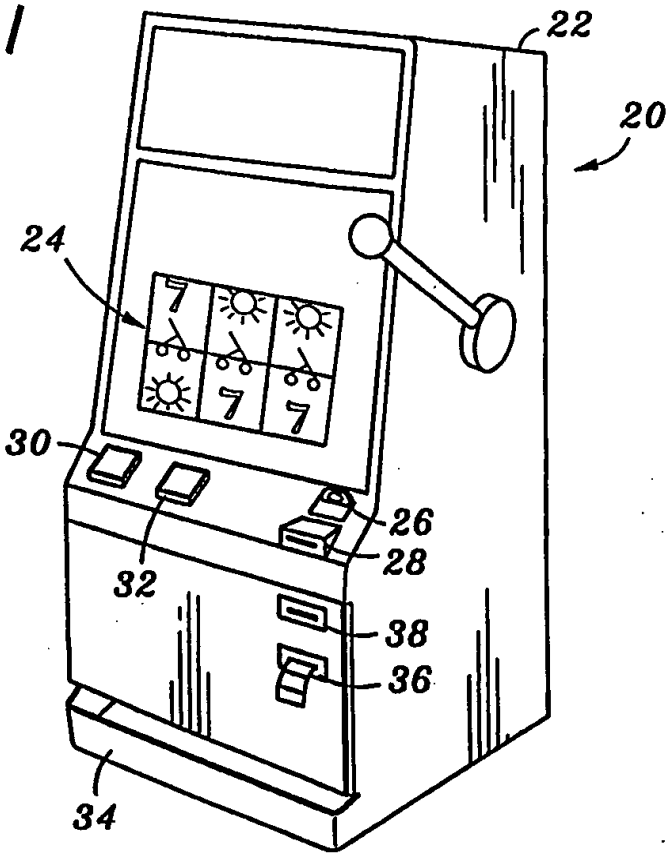


FIG. 2

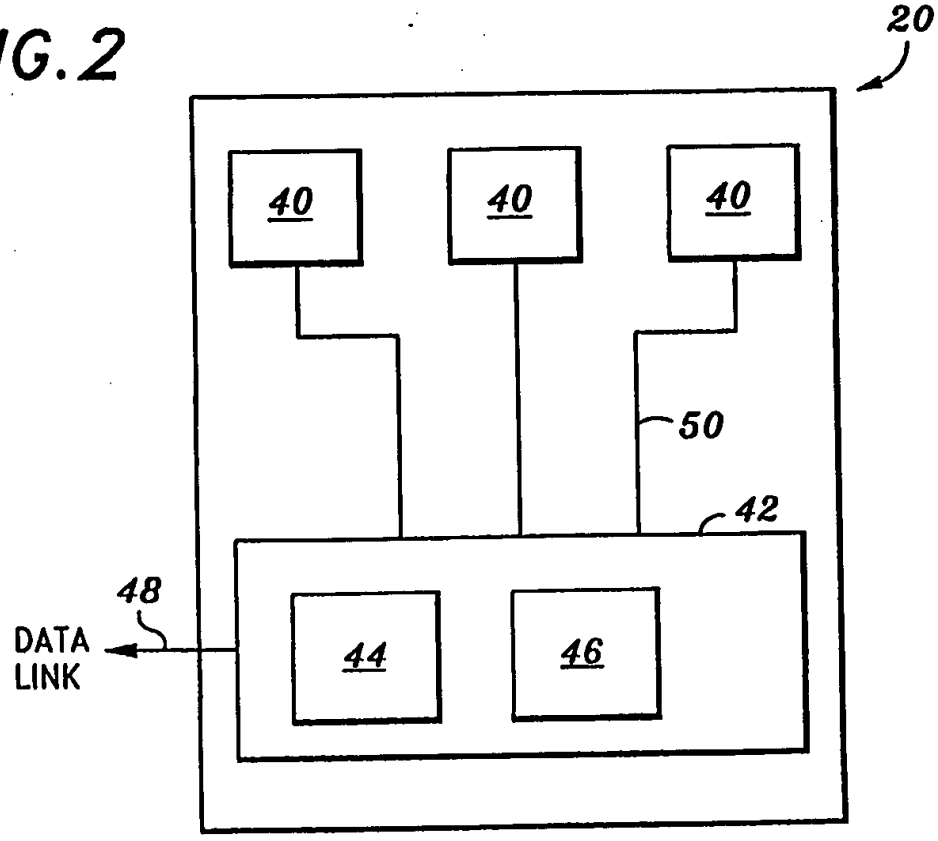
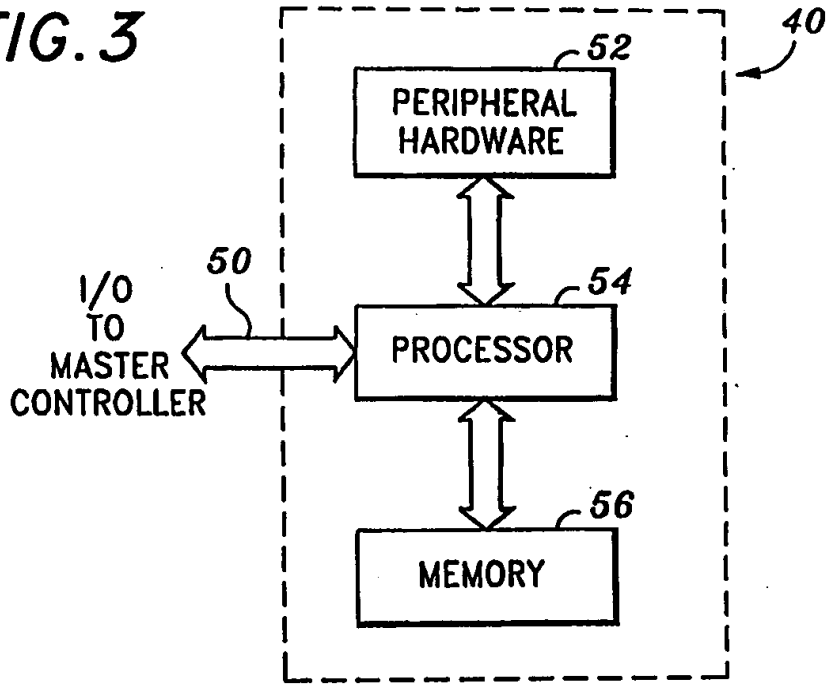


FIG. 3


40
52
PERIPHERAL HARDWARE
50
I/O TO MASTER CONTROLLER
54
PROCESSOR
56
MEMORY

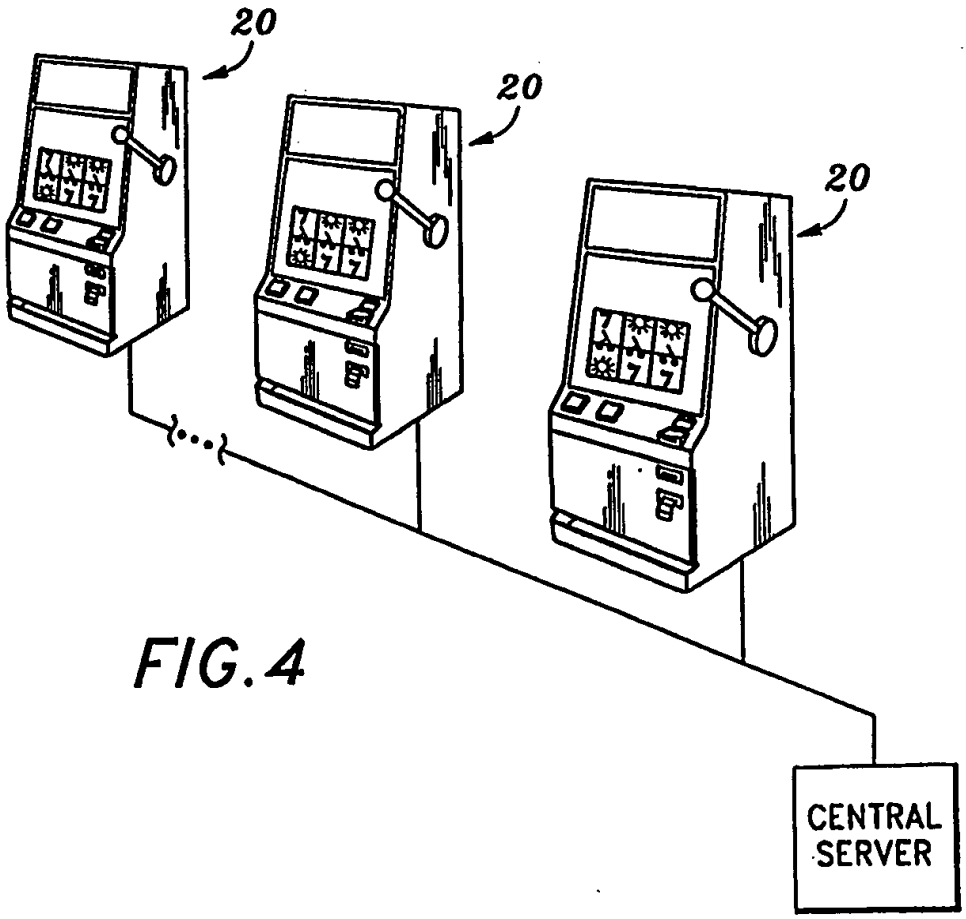

20
20
20
CENTRAL SERVER

FIG. 4

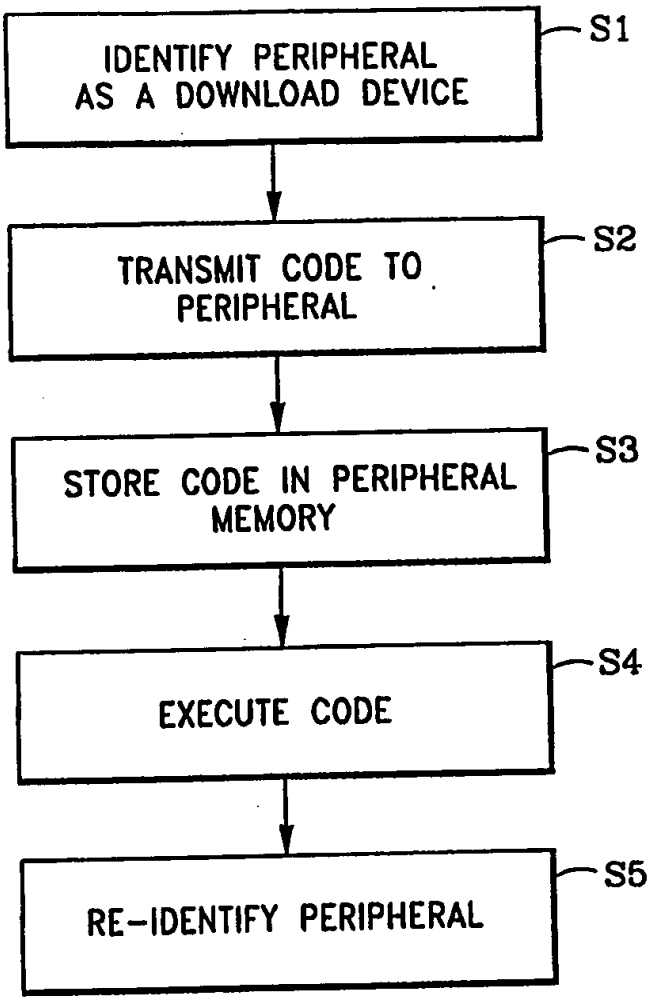

IDENTIFY PERIPHERAL AS A DOWNLOAD DEVICE
S1
TRANSMIT CODE TO PERIPHERAL
S2
STORE CODE IN PERIPHERAL MEMORY
S3
EXECUTE CODE
S4
RE-IDENTIFY PERIPHERAL
S5

FIG. 5

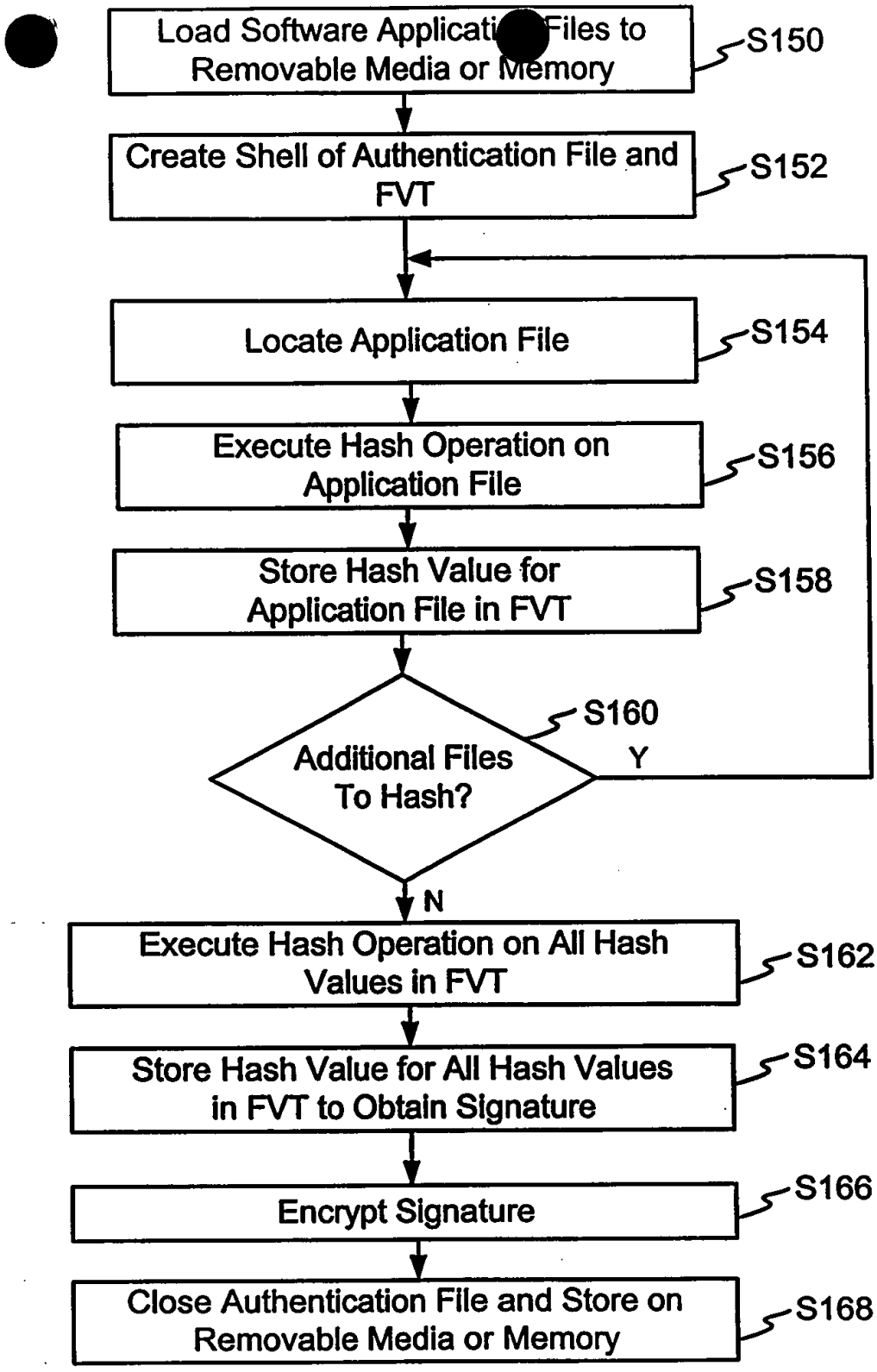

Load Software Application Files to Removable Media or Memory
S150
Create Shell of Authentication File and FVT
S152
Locate Application File
S154
Execute Hash Operation on Application File
S156
Store Hash Value for Application File in FVT
S158
Additional Files To Hash?
S160
Y
N
Execute Hash Operation on All Hash Values in FVT
S162
Store Hash Value for All Hash Values in FVT to Obtain Signature
S164
Encrypt Signature
S166
Close Authentication File and Store on Removable Media or Memory
S168

Fig. 6

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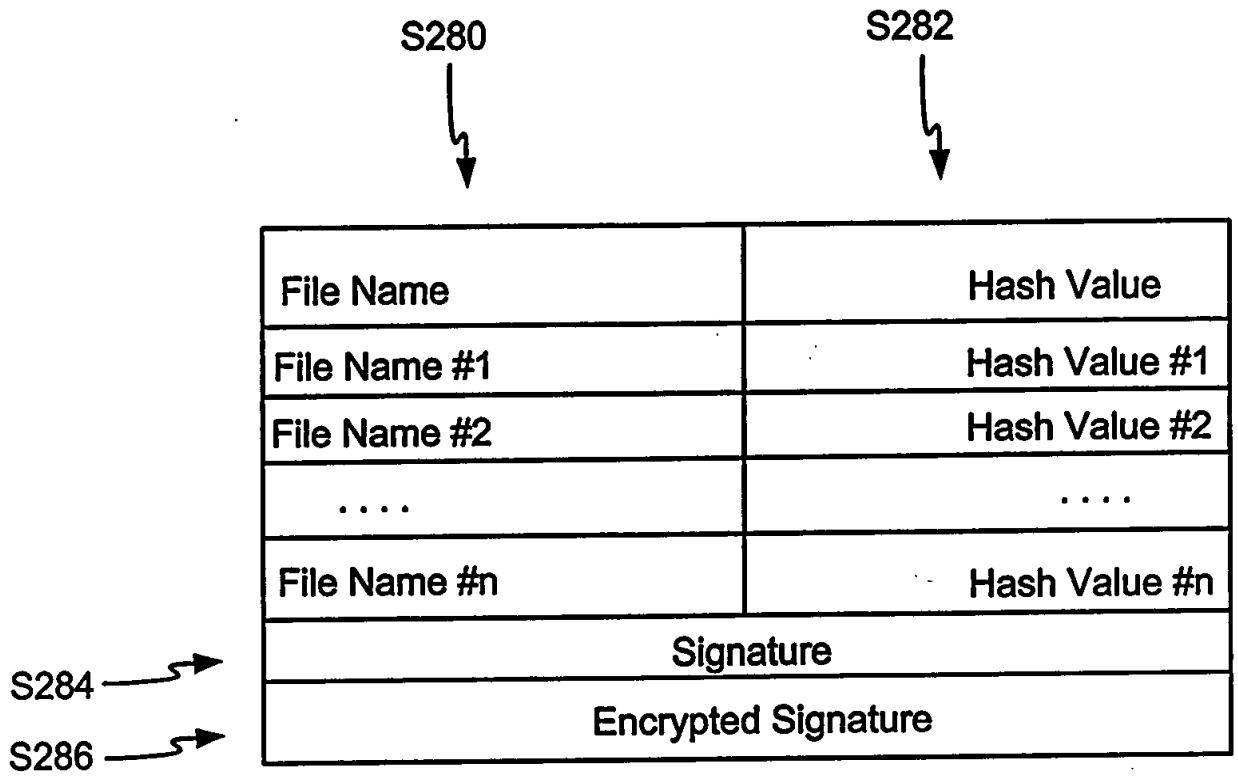

Fig. 7

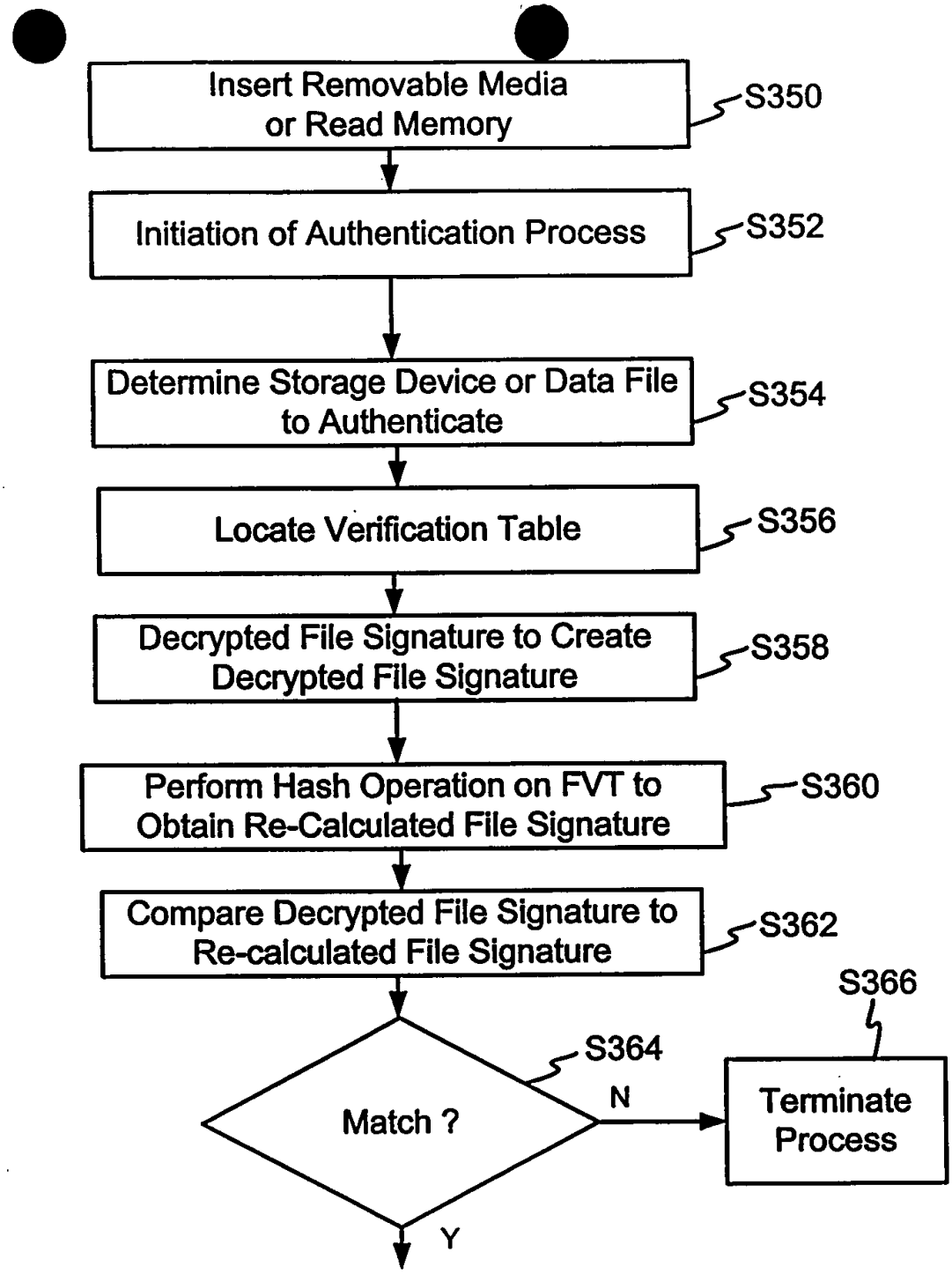
Insert Removable Media or Read Memory
S350
Initiation of Authentication Process
S352
Determine Storage Device or Data File to Authenticate
S354
Locate Verification Table
S356
Decrypted File Signature to Create Decrypted File Signature
S358
Perform Hash Operation on FVT to Obtain Re-Calculated File Signature
S360
Compare Decrypted File Signature to Re-calculated File Signature
S362
S364
Match ?
N
Y
S366
Terminate Process

Fig. 8A

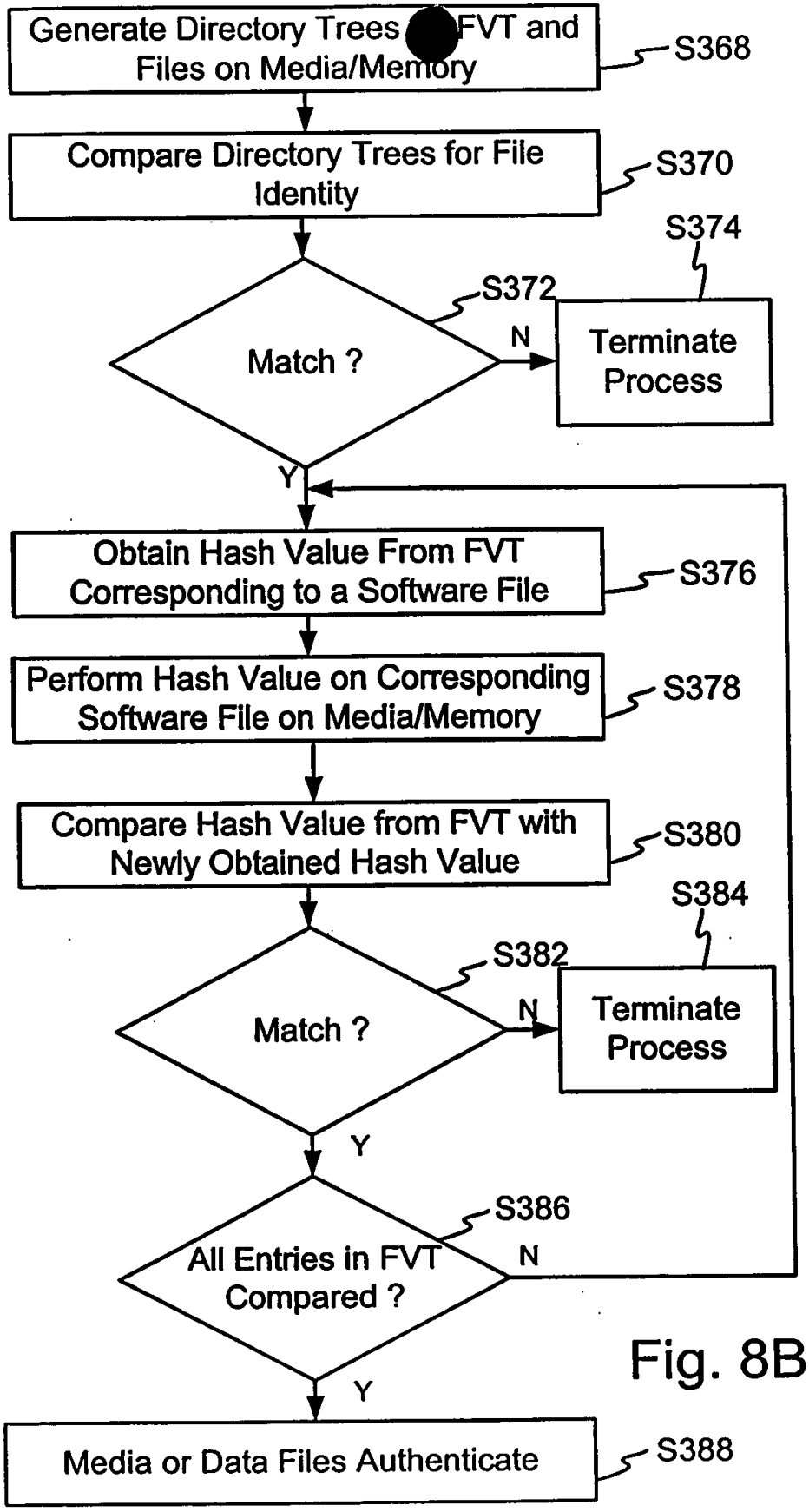
Generate Directory Trees FVT and Files on Media/Memory
S368
Compare Directory Trees for File Identity
S370
S374
S372
Match ?
N
Terminate Process
Y
Obtain Hash Value From FVT Corresponding to a Software File
S376
Perform Hash Value on Corresponding Software File on Media/Memory
S378
Compare Hash Value from FVT with Newly Obtained Hash Value
S380
S384
S382
Match ?
N
Terminate Process
Y
S386
All Entries in FVT Compared ?
N
Y
Media or Data Files Authenticate
S388

Fig. 8B